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ABSTRACT

This paper summarizes the findings of a study examining the impact of standards-based and curriculum reforms on the role of curriculum materials in educational systems in the United Kingdom, the United States of America, and Australia. Concepts derived from a model of decision-oriented evaluation were applied to define a typology to classify various activities relating to the development, selection, and use of curriculum resources. The study focused on identifying activities to develop, select, and use materials by investigating two areas. First, the activities of publishers' associations and publishing companies in developing new materials to meet the needs of schools in implementing standards-based and curriculum reforms were analyzed to determine their impact on changing practices for selecting and using curriculum resources in educational systems. The findings of the study in the form of various activities relating to the development, selection, and use of curriculum resources were then classified according to categories defined in the typology. Data on the findings are presented in this report. (Contains 17 tables and 6 references.) (SLD)

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The Role of Curriculum Resources in Three Countries: The Impact of National Curriculum Reforms in the United Kingdom, the United States of America, and Australia

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Abstract

This paper summarises the findings of a study examining the impact of standards-based and curriculum reforms on the role of curriculum materials in educational systems in the United Kingdom, the United States of America, and Australia. Concepts derived from a model of decision-oriented evaluation were applied to define a typology to classify various activities relating to the development, selection and use of curriculum resources. The study focused on identifying activities to develop, select and use materials by investigating two areas. First, the activities of publishers' associations and publishing companies in developing new materials to meet the needs of schools in implementing standards-based and curriculum reforms were identified. Second, the nature of the decision-making processes and products of standards-based and curriculum reforms were analysed to determine their impact on changing practices for selecting and using curriculum resources in educational systems. The findings of the study in the form of various activities relating to the development, selection and use of curriculum resources were then classified according to categories defined in the typology. Data on the findings of the study are reported in this paper.

The Role of Curriculum Resources in Three Countries: The Impact of National Curriculum Reforms in the United Kingdom, the United States of America, and Australia

Introduction

Systemic reforms of educational systems in Western democracies, including the United States, the United Kingdom, and Australia, led to extensive changes in policy-making. As the character of these reform movements altered during the late 1980s, the patterns of policy-making acquired the characteristics of centralising particular elements of decision-making authority at the national level, whilst at the same time decentralising other elements to the local level. The changes in patterns of decision-making, resulting from systemic reform, centralised curriculum reform, which was manifested in the form of standards-based education in the United States and as nationally agreed curricula in the United Kingdom and Australia. A potential outcome of these changes in policy-making was greater control by national and state authorities over the development, selection and use of curriculum resources needed to support these centralised reforms.

The purpose of this study is to determine the impact of major policy objectives inherent in national curriculum reforms occurring in the United Kingdom, the United States and Australia from the late 1980s to the first decade of the twenty-first century on the materials' marketplace. The intent is to determine the extent to which standards-based and curriculum reforms in the three countries have changed the role of curriculum materials by examining specific evidence.

Komoski (1977) reported developing a model of the materials' marketplace in response to an article written by Broudy (1975), a former textbook editor, who concluded that the materials' marketplace is driven by economic forces encapsulated in a frequently-espoused maxim of the textbook publishing industry: "Kids don't buy books, teachers do". In its final form, the model proposed by Komoski (1985), which he termed the Schema of the Materials' Marketplace, consists of five stages: the education industry; state education agencies or local school districts; school buildings and classrooms; classrooms and homes; and homes and businesses. Illustrated as Figure 1, this model defines criteria, which affect materials as they proceed through a complex set of interactions between publishers' production and marketing strategies, committees' selection procedures, and consumers' patterns of use analysed through five attributes: marketplace setting; predominant values; 'evaluators'; evaluative criteria; and evaluative feedback.

FIGURE 1

SCHEMA OF THE MATERIALS' MARKETPLACE (After Komoski, 1985)

Marketplace Setting	Predominant Values	'Evaluators'	Evaluative Criteria	Evaluative Feedback
Education Industry	*corporate*	*developers/ producers* (companies)	*feasibility* (Can it be made at a reasonable cost?) *marketability* (Will it make it in the market?) *profitability* (Will it make an acceptable profit?) *acceptability* (Will it be accepted by committees and teachers?)	Feedback loop necessary for continuous improvement of materials' ability to communicate effectively to learners is hardly, if ever, closed. The ultimate consumers' experience with materials seldom is a factor that shapes the decision-making of the education industry, state agencies, school boards, and/or school selection committees. (This is less so when good teachers, who are sensitive to learning needs are given the permission, the training, the time, and the support to select materials.)
		financial bottom line (Will it pay?)		
State Education Agencies or Local School Districts	*societal*	*screeners/ adopters* (committees)	*contents* (philosophy and coverage) *acceptability* (ethnic, racial, religious, sex fairness) *usability* (by teachers and learners, durability) *cost* (initial and continuing)	
		educational/social bottom line (Should it have its day or should it stay?)		
School Buildings and/or Classrooms	*group/ pragmatic*	*selectors/ prescribers* (teachers)	*contents* (appropriateness, coverage, objectives) *understandability* (by learners) *usability* (ease of use and durability) *likeability* (reactions of kids)	
		instructional bottom line (Will it play?)		
Classrooms and Homes	*personal/ affective/ utilitarian*	*user/ learners* (ultimate consumers)	when in school: Do I enjoy it? Does it make clear what I am to do? Can I do it? Of what value is it to me?	
Homes and Businesses	*personal/ utilitarian/ spiritual*	(ex-students)	when an adult (non-teacher): Was it of value to me? Is it what I want my child to learn? Did it help prepare me to function well as an adult? Will it prepare my child well for the future?	

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An issue confronting the study at this point concerned incorporating the concept of change inherent in educational reform within the model of the materials' marketplace proposed by Komoski. Whilst the effect of change on the materials' marketplace is recognised in this model through evaluative feedback, the model does not adequately represent the dynamic process of decision-making occurring between publishing companies, state education agencies, selection committees and learners in determining particular policy choices. It is recognised that the outcomes of such policy choices as they affect the development, selection and use of materials take many forms. In view of this conclusion, it was imperative to draw upon appropriate areas of educational theory to represent the decision-making process occurring within the materials' marketplace as a consequence of educational reform.

Decision-oriented evaluation represents a field, which employs concepts that may be useful for categorising the requirements of decision-making. An examination of the historical development of theory in this field showed that decision-oriented approaches culminated in the design of a predominant model. Conceptualised by Stufflebeam et al. (1971), the Context Input Process Product (CIPP) Model specifies four stages of evaluation. Context evaluation is conducted to provide a rationale for determining objectives. Input evaluation is conducted to determine how resources are to be used to meet program goals. Process evaluation is conducted to provide feedback to those implementing the program plan. Product evaluation is conducted to provide formative and summative measurements of attainment. If context evaluation indicates that improvement is needed in a program, a decision-making body could choose between alternative types of change depending on the decision setting, a set of environmental circumstances governing both analysis and choice concerning the degree of change and the amount of knowledge or 'information grasp'. In homeostatic decision settings, decisions to effect small change are supported by a high level of information grasp. In incremental decision settings, decisions to effect small change are supported by a low level of information grasp. In neomobilistic decision settings, decisions to effect large change are supported by a low level of information grasp. In metamorphic decision settings, decisions to effect complete change are supported by a high level of information grasp. Stufflebeam et al. recognised that homeostatic decision settings are most prevalent in educational contexts, incremental decision settings are characteristic of many educational activities labelled 'innovative', neomobilistic decision settings are characterised by endeavours of high risk, whilst metamorphic decision settings are utopian and essentially theoretical. Selection of the decision setting determines the choice of the appropriate decision model. Homeostatic decision settings employ the synoptic ideal model, characterised by specification of all possible consequences for all possible alternatives in terms of all relevant criteria. Incremental decision settings employ the disjointed incremental model, characterised by continuous exploration of the existing

program in order to improve it. Neomobilistic decision settings employ the planned change model, based on a taxonomy, which classifies the activities of the change process. These evaluation designs require all educational decision possibilities to be categorised. This is achieved by classifying all decisions, initially, as either ends or means of a function, and then according to their relevance to intentions or actualities. This model is conceptualised as four types of decisions. Planning decisions, intended to determine objectives, are serviced by context evaluation. Structuring decisions, applied to design procedures, are serviced by input evaluation. Implementing decisions, intended to utilise, control and refine procedures, are serviced by process evaluation. Recycling decisions, used to judge and react to attainments, are serviced by product evaluation. The interrelationships among the four decision settings, three decision models and four decision types of the CIPP Model are represented as a flow chart of decision-making in Figure 2.

The CIPP Model is not employed in this study for the purpose of educational evaluation. Instead, it is used to provide a typology for classifying different types of change inherent in various activities implemented by policy-makers in the educational systems of the United States, the United Kingdom and Australia to improve the match between standards-based and curriculum reforms and the materials needed to support them. Each activity of this type was examined to determine whether it met the conditions for homeostatic, incremental or neomobilistic change defined below. Intended to restore the normal balance in an educational system, homeostatic change involves the application of technical standards and quality control data collection systems to make small changes. Intended to develop a new balance in an educational system, incremental change involves the expert judgments and structured inquiry provided by committees and special studies to make small adjustments through trial and correction. Intended to provide innovative activity for inventing, testing and diffusing new solutions to significant problems, neomobilistic change involves heuristic investigations in the early stages followed by a rigorous effort to engineer large change.

The model devised by Stake (1967) was applied to organise antecedent, transaction and outcome data within this typology. A flow chart showing the major issues to be resolved in determining the impact of curriculum reform on the materials' marketplace is illustrated in Figure 3. The left matrices represent the flow of issues to be answered concerning the impact of curriculum reform on the products of the publishing industry. The centre matrices represent the flow of issues to be answered concerning the impact of curriculum reform on the selection process in educational systems. The right matrices represent the flow of issues to be answered concerning the impact of curriculum reform on the use of materials in educational systems.

FIGURE 2

A FLOW CHART OF DECISION MAKING (After Stufflebeam et al., 1971)

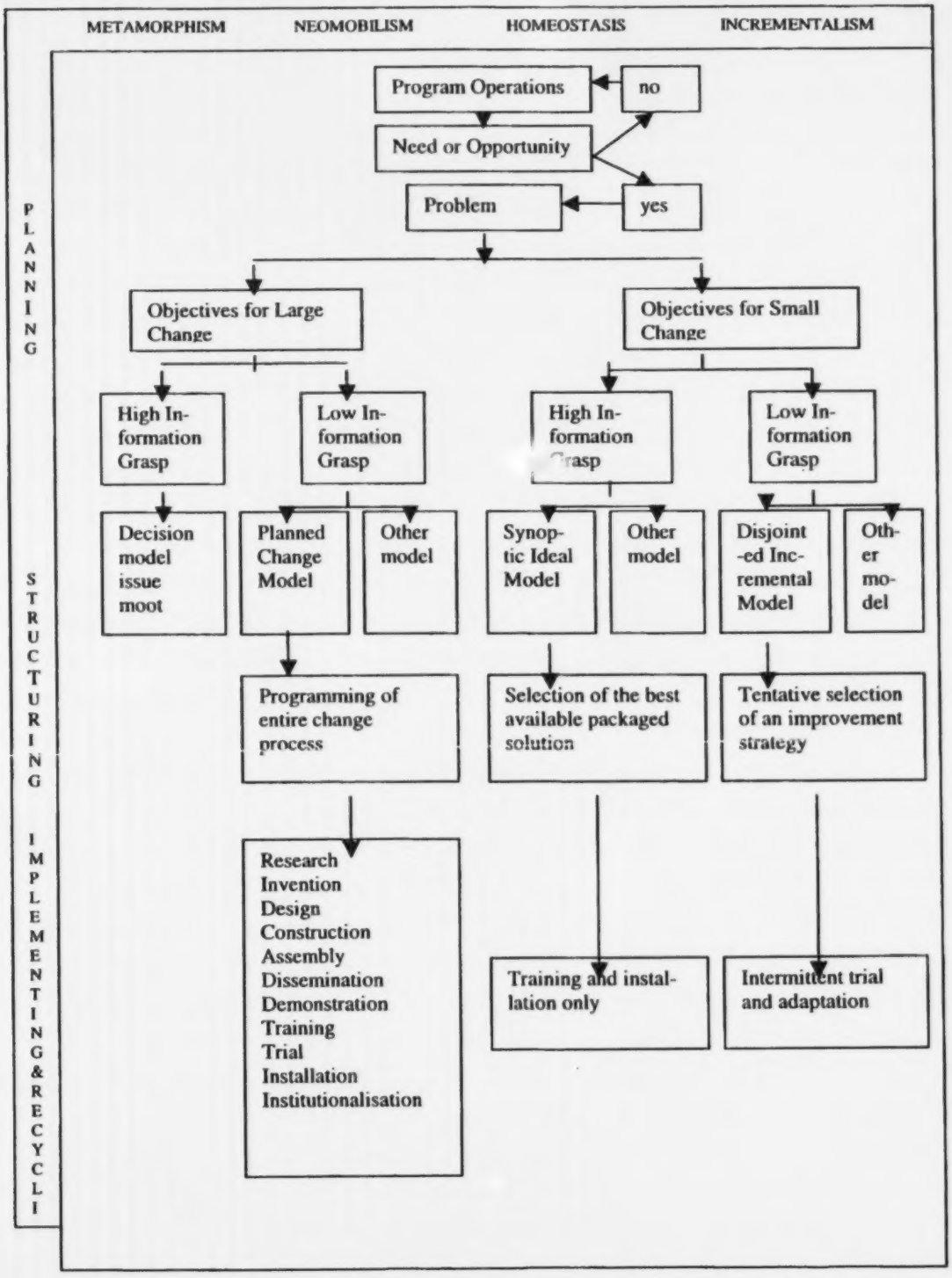
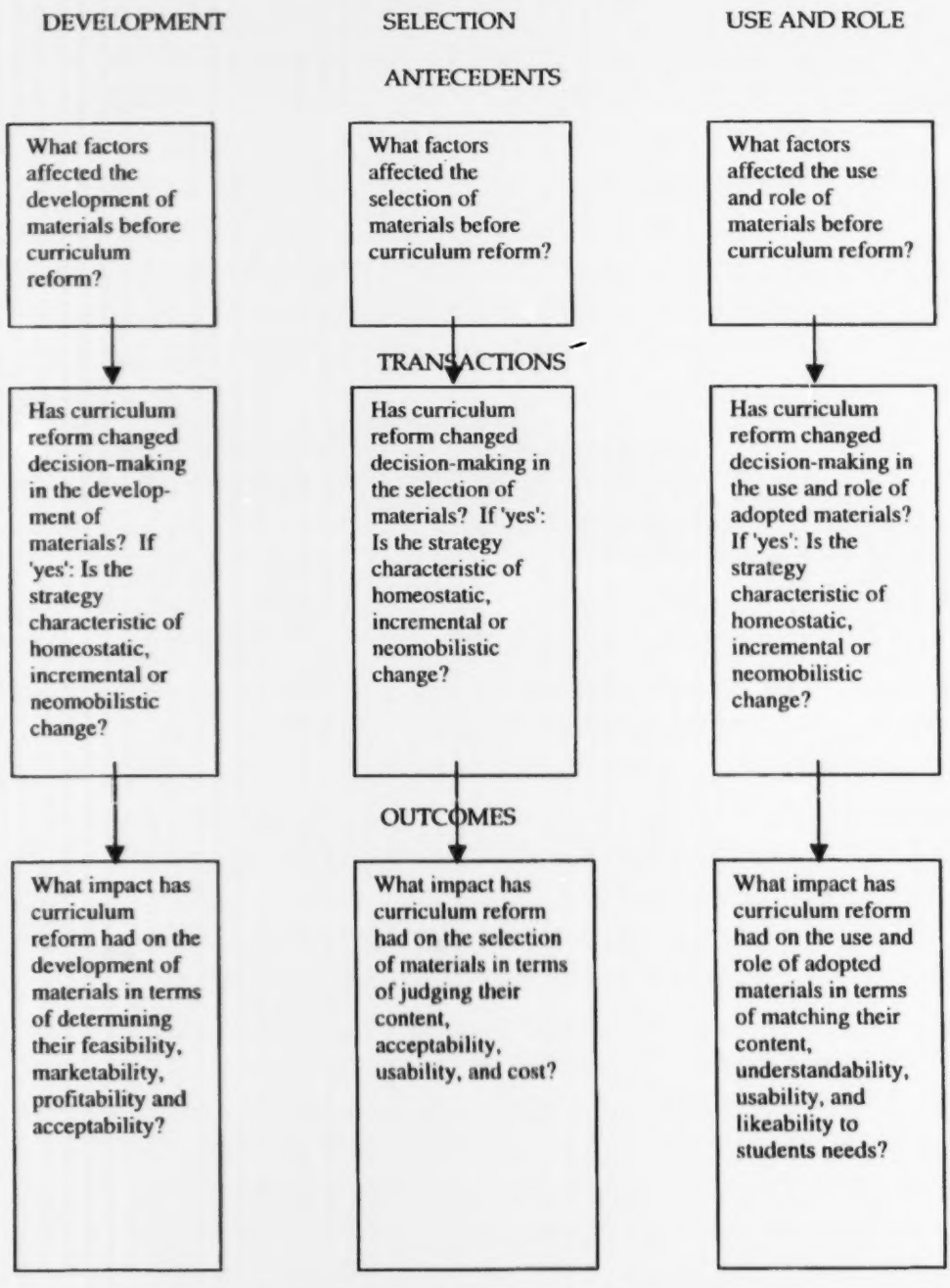


FIGURE 3

FLOW CHART SHOWING THE MAJOR ISSUES OF THE IMPACT OF CURRICULUM REFORM ON THE MATERIALS' MARKETPLACE


DEVELOPMENT
SELECTION
USE AND ROLE
ANTECEDENTS
What factors affected the development of materials before curriculum reform?
What factors affected the selection of materials before curriculum reform?
What factors affected the use and role of materials before curriculum reform?
TRANSACTIONS
Has curriculum reform changed decision-making in the development of materials? If 'yes': Is the strategy characteristic of homeostatic, incremental or neomobilistic change?
Has curriculum reform changed decision-making in the selection of materials? If 'yes': Is the strategy characteristic of homeostatic, incremental or neomobilistic change?
Has curriculum reform changed decision-making in the use and role of adopted materials? If 'yes': Is the strategy characteristic of homeostatic, incremental or neomobilistic change?
OUTCOMES
What impact has curriculum reform had on the development of materials in terms of determining their feasibility, marketability, profitability and acceptability?
What impact has curriculum reform had on the selection of materials in terms of judging their content, acceptability, usability, and cost?
What impact has curriculum reform had on the use and role of adopted materials in terms of matching their content, understandability, usability, and likeability to students needs?

From an understanding of the variables presented in this flow chart, three research questions were postulated. First, the impact of national curriculum reforms on the development of curriculum materials would vary according to the degree to which publishing companies are influenced by the criteria of feasibility, marketability, profitability, and acceptability. Second, the impact of national curriculum reforms on the selection of curriculum materials in the three countries would vary according to the degree to which selection procedures are centralised, since concentration of expertise in selecting materials will affect the application of criteria relating to content, acceptability, usability and cost. Third, the impact of national curriculum reforms on the use of curriculum materials in the three countries would vary according to the degree to which recommendations and strategies implemented for using materials match criteria relating to content, understandability, useability, and likeability.

The significance of this study lies in determining answers to a variety of questions concerning the importance of curriculum materials as a key element of current efforts in standards-based and curriculum reform. What impact are these reforms having on the development of curriculum materials? What attributes of subject matter and social content are being affected in curriculum materials? What impact are these reforms having on the decision-making process for selecting curriculum materials? What features of selection procedures are being affected? What impact are these reforms having on the use and role of curriculum materials? What aspects of their use are likely to be affected? The importance of providing answers to these, and other questions, lies in presenting policy-makers, curriculum specialists, school principals, teachers, publishers and other interested groups with information to improve their understanding of the importance of curriculum materials within the context of reform efforts.

Method

Using the taxonomy of research methods proposed by Isaac and Michael (1971), six methods were applied in this study to investigate relevant aspects of the educational systems in the three countries. Critical discursive method was applied to elucidate the processes used in the United States by the publishing industry to develop and market materials, and by state education agencies to select and adopt materials. Analytic discursive method was applied to analyse the impact of the excellence debate on effecting change in the materials' marketplace in the United States during the 1980s. Survey method was applied to investigate the impact of national curriculum reforms on publishers by describing the activities of publishers' associations, and the new materials developed by samples of publishing companies in each country. Content analysis method was applied to analyse information contained in documents available from national and state education agencies, professional associations and web sites, and classify this information according to a taxonomy of key features relating to standards-based and

curriculum reform and the development, selection and use of materials. Developmental and historical methods were applied to examine the nature of decision-making processes and products arising from national curriculum reforms in the United Kingdom and Australia, and standards-based reforms in the United States together with associated projects for developing, selecting and implementing materials. Data on various activities relating to the development, selection and use of curriculum resources obtained from the application of these research methods were then classified according to the criteria defined in the typology.

Results

Development

United Kingdom

Although the greatest volume of activities in developing and publishing curriculum materials is undertaken by publishing companies, the Publishers Association's Educational Publishers Council and the Qualifications and Curriculum Authority became involved in devising a strategy to improve the quality of curriculum materials through a collaborative venture. This involvement took the forms of convening a conference and forming a committee to oversee collaborative activities. The Qualifications, Curriculum and Assessment Authority for Wales devised a program for commissioning publishing companies to develop Welsh-language materials.

Analysis of strategies relating to the development of curriculum materials indicated that a total of four activities were undertaken by governmental agencies and other organisations in England and Wales to improve or apply new solutions for developing curriculum materials to meet the requirements of the national curriculum orders. Although publishing companies produced materials across the United Kingdom with a high concentration of publishing activities in England, few activities were undertaken by education agencies. The Department for Education and Skills undertook one activity, the Publishers Association and the Qualifications and Curriculum Authority undertook two activities in England, and the Qualifications, Curriculum and Assessment Authority for Wales undertook one activity in Wales, whilst no activities were undertaken in Scotland and Northern Ireland.

Table 1 presents a matrix indicating the organisations involved in national curriculum reform in the rows, and the categories of activities relating to the development of curriculum materials for meeting the national curriculum orders in the columns. If the categories of activities are classified according to decision setting, it was found that there was an uneven distribution in

frequency of activities between decision settings. Whilst one category in each of the homeostatic, incremental and neomobilistic settings was responsible for an infinite number of activities, two other categories in the incremental setting were responsible for one activity each, and one other category in the neomobilistic setting was responsible for two activities.

TABLE 1

MATRIX OF ACTIVITIES USED BY NATIONAL ORGANISATIONS AND PUBLISHING COMPANIES TO DEVELOP CURRICULUM MATERIALS FOR MEETING NATIONAL CURRICULUM ORDERS

Organisation	Category of Activities									
	1	2	3	4	5	6	7	8	9	10
United Kingdom Publishing Companies	n	n	0	0	0	0	n	0	0	0
England Department for Education and Skills: Consortium on Citizenship Education	0	0	0	0	0	0	0	0	1	0
Qualifications and Curriculum Authority and Publishers Association: Educational Resources Project	0	0	0	1	1	0	0	0	0	0
Wales Qualifications, Curriculum and Assessment Authority for Wales: Welsh Language Materials Project	0	0	0	0	0	0	0	0	1	0
Total	n	n	0	1	1	0	n	0	2	0

Key A: 1 = publishing companies develop and publish traditional materials (homeostatic setting); 2 = publishing companies develop and publish innovative materials (incremental setting); 3 = education agency develops and publishes innovative materials (incremental setting); 4 = education agency convenes a conference on improving the quality of materials (incremental setting); 5 = publishing companies and an education agency convene a committee to collaborate on developing materials (incremental setting); 6 = education agency develops guidelines for developing curriculum materials (incremental setting); 7 = publishing companies develop and publish materials that incorporate computer-based technologies (neomobilistic setting); 8 = education agency develops and publishes materials that incorporate computer-based technologies (neomobilistic setting); 9 = education agency commissions publishing companies to develop and publish materials (neomobilistic setting); and 10 = organisation provides publishing companies with consultancy services for developing materials.
Key B: n = infinite number.

United States

National Level

Although the greatest volume of activities in developing and publishing curriculum materials is undertaken by publishing companies, several national professional associations were involved in developing curriculum materials to support the national content standards. Furthermore, the American Association for the Advancement of Science's Project 2061 convened conferences aimed at improving the quality of curriculum materials.

Analysis of strategies relating to the development of curriculum materials indicated that whilst publishing companies produced materials across the United States, only eight activities were undertaken by education agencies to improve or apply new solutions for developing curriculum materials to meet the requirements of the national content standards. Whilst the United States Department of Education undertook one activity, national professional associations and affiliated projects undertook seven activities.

Table 2 presents a matrix indicating the organisations involved in standards-based reform in the rows, and the categories of activities relating to the development of curriculum materials for meeting the national content standards in the columns. If the categories of activities are classified according to decision setting, it was found that there was an uneven distribution in frequency of activities between decision settings. Whilst one category in each of the homeostatic, incremental and neomobilistic settings was responsible for an infinite number of activities, another category within the incremental setting was responsible for seven activities, and a further category within the incremental setting was responsible for one activity.

TABLE 2

MATRIX OF ACTIVITIES USED BY NATIONAL ORGANISATIONS AND PUBLISHING COMPANIES TO DEVELOP CURRICULUM MATERIALS FOR MEETING NATIONAL CONTENT STANDARDS

Organisation	Category of Activities									
	1	2	3	4	5	6	7	8	9	10
Publishing Companies	n	n	0	0	0	0	n	0	0	0
U.S. Department										

TABLE 2 (cont.)

MATRIX OF ACTIVITIES USED BY NATIONAL ORGANISATIONS AND PUBLISHING COMPANIES TO DEVELOP CURRICULUM MATERIALS FOR MEETING NATIONAL CONTENT STANDARDS

Organisation	Category of Activities									
	1	2	3	4	5	6	7	8	9	10
of Education: America Reads Challenge	0	0	1	0	0	0	0	0	0	0
National Science Foundation: Instructional Materials Development Program	0	0	1	0	0	0	0	0	0	0
National Standards Projects										
American Association for the Advancement of Science: Project 2061	0	0	0	1	0	0	0	0	0	0
National Center for History in the Schools: Revised National History Standards	0	0	1	0	0	0	0	0	0	0
National Council for Geographic Education: National Geography Standards										
University of Colorado	0	0	1	0	0	0	0	0	0	0
Association of American Geographers	0	0	1	0	0	0	0	0	0	0
National Council of Teachers of English and International Reading Association: National English Language Arts Standards	0	0	1	0	0	0	0	0	0	0
National Council on Economic Education and Foundation for Teaching Economics: National Economics Standards	0	0	1	0	0	0	0	0	0	0
Total	n	n	7	1	0	0	n	0	0	0

Key A: 1 = publishing companies develop and publish traditional materials (homeostatic setting); 2 = publishing companies develop and publish innovative materials (incremental setting); 3 = education agency develops and publishes innovative materials (incremental

setting); 4 = education agency convenes a conference on improving the quality of materials (incremental setting); 5 = publishing companies and an education agency convene a committee to collaborate on developing materials (incremental setting); 6 = education agency develops guidelines for developing curriculum materials (incremental setting); 7 = publishing companies develop and publish materials that incorporate computer-based technologies (neomobilistic setting); 8 = education agency develops and publishes materials that incorporate computer-based technologies (neomobilistic setting); 9 = education agency commissions publishing companies to develop and publish materials (neomobilistic setting); and 10 = organisation provides publishing companies with consultancy services for developing materials.
Key B: n = infinite number.

State Level

State education agencies have developed few curriculum resources to support state content standards. Analysis of strategies relating to the development of curriculum materials indicated that a total of three activities were undertaken to maintain or apply new solutions to develop curriculum materials for meeting state content standards. Only two state education agencies reported developing and publishing web-based curriculum materials. The Publishers Resource Group provides publishing companies with consultancy services for developing materials.

Table 3 presents a matrix indicating the state education agencies in the rows, and the categories of activities relating to the development of curriculum materials for meeting state content standards in the columns. If the categories of activities are classified according to decision setting, it was found that there was an uneven distribution in frequency of activities between decision settings. Whilst the homeostatic and incremental settings were unrepresented, one category within the neomobilistic setting was responsible for one activity, whilst another category within the neomobilistic setting was responsible for two activities.

TABLE 3

MATRIX OF ACTIVITIES USED BY STATE EDUCATION AGENCIES TO DEVELOP CURRICULUM MATERIALS FOR MEETING STATE CONTENT STANDARDS

State	Category of Activities									
	1	2	3	4	5	6	7	8	9	10
Alabama	0	0	0	0	0	0	0	0	0	0
Alaska	0	0	0	0	0	0	0	0	0	0
Arizona	0	0	0	0	0	0	0	0	0	0
Arkansas	0	0	0	0	0	0	0	0	0	0
California	0	0	0	0	0	0	0	0	0	0
Colorado	0	0	0	0	0	0	0	0	0	0
Connecticut	0	0	0	0	0	0	0	0	0	0
DoDEA	0	0	0	0	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	0	0	0	0	0

TABLE 3 (cont.)

MATRIX OF ACTIVITIES USED BY STATE EDUCATION AGENCIES TO DEVELOP CURRICULUM MATERIALS FOR MEETING STATE CONTENT STANDARDS

State	Category of Activities									
	1	2	3	4	5	6	7	8	9	10
Florida	0	0	0	0	0	0	0	0	0	0
Georgia	0	0	0	0	0	0	0	0	0	0
Hawaii	0	0	0	0	0	0	0	0	0	0
Idaho	0	0	0	0	0	0	0	0	0	0
Illinois	0	0	0	0	0	0	0	0	0	0
Indiana	0	0	0	0	0	0	0	0	0	0
Iowa	0	0	0	0	0	0	0	0	0	0
Kentucky	0	0	0	0	0	0	0	0	0	0
Louisiana	0	0	0	0	0	0	0	0	0	0
Maine	0	0	0	0	0	0	0	0	0	0
Maryland	0	0	0	0	0	0	0	0	0	0
Massachusetts	0	0	0	0	0	0	0	0	0	0
Michigan	0	0	0	0	0	0	0	0	0	0
Minnesota	0	0	0	0	0	0	0	0	0	0
Mississippi	0	0	0	0	0	0	0	0	0	0
Missouri	0	0	0	0	0	0	0	0	0	0
Montana	0	0	0	0	0	0	0	0	0	0
Nebraska	0	0	0	0	0	0	0	0	0	0
Nevada	0	0	0	0	0	0	0	0	0	0
New Hampshire	0	0	0	0	0	0	0	0	0	0
New Jersey	0	0	0	0	0	0	0	0	0	0
New Mexico	0	0	0	0	0	0	0	0	0	0
New York	0	0	0	0	0	0	0	0	0	0
North Carolina	0	0	0	0	0	0	0	0	0	0
North Dakota	0	0	0	0	0	0	0	0	0	0
Ohio	0	0	0	0	0	0	0	0	0	0
Oklahoma	0	0	0	0	0	0	0	0	0	0
Oregon	0	0	0	0	0	0	0	0	0	0
Pennsylvania	0	0	0	0	0	0	0	0	0	0
Rhode Island	0	0	0	0	0	0	0	0	0	0
South Carolina	0	0	0	0	0	0	0	0	0	0
South Dakota	0	0	0	0	0	0	0	1	0	0
Tennessee	0	0	0	0	0	0	0	0	0	0
Texas	0	0	0	0	0	0	0	0	0	1
Utah	0	0	0	0	0	0	0	0	0	0
Vermont	0	0	0	0	0	0	0	0	0	0
Virginia	0	0	0	0	0	0	0	1	0	0
Washington	0	0	0	0	0	0	0	0	0	0
West Virginia	0	0	0	0	0	0	0	0	0	0
Wisconsin	0	0	0	0	0	0	0	0	0	0
Wyoming	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	2	0	1

Key A: 1 = publishing companies develop and publish traditional materials (homeostatic setting); 2 = publishing companies develop and publish innovative materials (incremental setting); 3 = education agency develops and publishes innovative materials (incremental

setting); 4 = education agency convenes a conference on improving the quality of materials (incremental setting); 5 = publishing companies and an education agency convene a committee to collaborate on developing materials (incremental setting); 6 = education agency develops guidelines for developing curriculum materials (incremental setting); 7 = publishing companies develop and publish materials that incorporate computer-based technologies (neomobilistic setting); 8 = education agency develops and publishes materials that incorporate computer-based technologies (neomobilistic setting); 9 = education agency commissions publishing companies to develop and publish materials (neomobilistic setting); and 10 = organisation provides publishing companies with consultancy services for developing materials.
Key B: n = infinite number.

Australia

National Level

Although the greatest volume of activities in developing and publishing curriculum materials is undertaken by publishing companies, the Curriculum Corporation developed guidelines for product developers, the Civics Education Group developed materials for civics education, and the Australian Education Systems Officials Committee designed an on-line searchable database of curriculum resources.

Analysis of strategies relating to the development of curriculum materials indicated that a total of three activities were undertaken by governmental agencies and other organisations to improve or apply new solutions to the development of curriculum materials for meeting the national statements and profiles.

Table 4 presents a matrix indicating the organisations involved in national curriculum reform in the rows, and the categories of activities relating to the development of curriculum materials for meeting the national statements and profiles in the columns. If the categories of activities are classified according to decision setting, it was found that there was an uneven distribution in frequency of activities between decision settings. Whilst one category in each of the homeostatic, incremental and neomobilistic settings was responsible for an infinite number of activities, one other category within the incremental setting was responsible for one activity, and one category within the neomobilistic setting was responsible for two activities.

TABLE 4

MATRIX OF ACTIVITIES USED BY NATIONAL ORGANISATIONS AND PUBLISHING COMPANIES TO DEVELOP CURRICULUM MATERIALS FOR MEETING THE NATIONAL STATEMENTS AND PROFILES

Organisation	Category of Activities									
	1	2	3	4	5	6	7	8	9	10
Publishing Companies	n	n	0	0	0	0	n	0	0	0
Curriculum Corporation: Guidelines for Product Developers	0	0	0	0	0	1	0	0	0	0
Civics Education Group: Discovering Democracy School Materials Project	0	0	1	0	0	0	0	0	0	0
Australian Education Systems Officials Committee: Le@rning Federation	0	0	0	0	0	0	0	1	0	0
Total	n	n	1	0	0	1	n	1	0	0

Key A: 1 = publishing companies develop and publish traditional materials (homeostatic setting); 2 = publishing companies develop and publish innovative materials (incremental setting); 3 = education agency develops and publishes innovative materials (incremental setting); 4 = education agency convenes a conference on improving the quality of materials (incremental setting); 5 = publishing companies and an education agency convene a committee to collaborate on developing materials (incremental setting); 6 = education agency develops guidelines for developing curriculum materials (incremental setting); 7 = publishing companies develop and publish materials that incorporate computer-based technologies (neomobilistic setting); 8 = education agency develops and publishes materials that incorporate computer-based technologies (neomobilistic setting); 9 = education agency commissions publishing companies to develop and publish materials (neomobilistic setting); and 10 = organisation provides publishing companies with consultancy services for developing materials.
Key B: n = infinite number.

State Level

The only involvement of state education agencies in developing curriculum resources was the development of curriculum materials by one territory education agency, and the provision of on-line searchable databases of web-based curriculum resources by two state education agencies.

Table 5 presents a matrix indicating the states and territories in the rows, and the categories of activities relating to the development of curriculum materials for meeting state curricula in the columns. If the categories of activities are classified according to decision setting, it was found that there was an uneven distribution in frequency of activities between decision settings. Whilst the homeostatic setting was unrepresented, the only category within the incremental setting was responsible for one activity, and the only category in the neomobilistic setting was responsible for two activities.

TABLE 5

MATRIX OF ACTIVITIES USED BY STATE AND TERRITORY EDUCATION AGENCIES TO DEVELOP CURRICULUM MATERIALS FOR MEETING STATE CURRICULA

State	Category of Activities									
	1	2	3	4	5	6	7	8	9	10
Australian Capital Territory	0	0	1	0	0	0	0	0	0	0
New South Wales	0	0	0	0	0	0	0	0	0	0
Northern Territory	0	0	0	0	0	0	0	0	0	0
Queensland	0	0	0	0	0	0	0	0	0	0
South Australia	0	0	0	0	0	0	0	1	0	0
Tasmania	0	0	0	0	0	0	0	0	0	0
Victoria	0	0	0	0	0	0	0	1	0	0
Western Australia	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	0	0	0	0	2	0	0

Key A: 1 = publishing companies develop and publish traditional materials (homeostatic setting); 2 = publishing companies develop and publish innovative materials (incremental setting); 3 = education agency develops and publishes innovative materials (incremental setting); 4 = education agency convenes a conference on improving the quality of materials (incremental setting); 5 = publishing companies and an education agency convene a committee to collaborate on developing materials (incremental setting); 6 = education agency develops guidelines for developing curriculum materials (incremental setting); 7 = publishing companies develop and publish materials that incorporate computer-based technologies (neomobilistic setting); 8 = education agency develops and publishes materials that incorporate computer-based technologies (neomobilistic setting); 9 = education agency commissions publishing companies to develop and publish materials (neomobilistic setting); and 10 = organisation provides publishing companies with consultancy services for developing materials.
Key B: n = infinite number.

Selection

United Kingdom

Although the education agencies in each country, responsible for developing the national curriculum orders, are not responsible for selecting curriculum resources to support implementation of these orders, such organisations in England and Scotland became involved in this activity. This involvement took the forms of detailing lists of resource materials, conducting a comparative study of selection procedures, convening a conference on selection practices, forming committees to analyse the attributes of materials, forming committees to select exemplary materials, and designing on-line searchable databases of information on curriculum materials.

Analysis of strategies relating to the selection of curriculum materials indicated that a total of ten activities were undertaken by education agencies and other organisations in England and Scotland to maintain, improve or apply new solutions to the selection of curriculum materials for meeting national curriculum orders. If these ten activities are categorised according to the particular agencies or organisations, which undertook them in the four countries, a statistical difference is evident. In England, the Qualifications and Curriculum Authority, the British Educational Communications and Technology Agency and the National Foundation for Educational Research each undertook two activities, and the Department for Education and Skills and the Centre for Research in Educational ICT each undertook one activity. In Scotland, Teaching and Learning Scotland undertook two activities. No activities were undertaken in Wales and Northern Ireland.

Table 6 presents a matrix indicating the organisations involved in national curriculum reform in the rows, and the categories of activities relating to the selection of curriculum materials for meeting the national curriculum orders in the columns. If the categories of activities are classified according to decision setting, it was found that there was an uneven distribution in frequency of activities across each decision setting. The single category within the homeostatic setting accounted for one activity, one category within the incremental setting was responsible for two activities and another three categories were each responsible for one activity, and the one category within the neomobilistic setting was responsible for four activities.

TABLE 6

MATRIX OF ACTIVITIES USED BY NATIONAL ORGANISATIONS TO SELECT CURRICULUM MATERIALS FOR MEETING THE NATIONAL CURRICULUM ORDERS

Organisation	Category of Activities									
	1	2	3	4	5	6	7	8	9	10
England Qualifications and Curriculum Authority: Educational Resources Project	0	0	0	1	1	0	0	0	0	0
Department for Education and Skills: Citizenship Database	0	0	0	0	0	0	0	1	0	0
National Foundation for Educational Research: International Review of Curriculum and Assessment Frameworks	0	0	1	0	0	0	0	0	0	0
Inventory of Citizenship Materials	0	0	0	0	1	0	0	0	0	0
British Educational Communication and Technology Agency: Curriculum Software Initiative	0	0	0	0	0	0	1	0	0	0
Educational Software Database	0	0	0	0	0	0	0	1	0	0
Centre for Research in Educational ICT: Teachers Evaluating Educational Multimedia	0	0	0	0	0	0	0	1	0	0
Scotland Teaching and Learning Scotland: Resource Catalogues	0	1	0	0	0	0	0	0	0	0
5-14 Website	0	0	0	0	0	0	0	1	0	0
Total	0	1	1	1	2	0	1	4	0	0

Key: 1 = education agency or subject association provides guidelines or criteria for selecting materials in curriculum documents (homeostatic setting); 2 = education agency or subject association provides a list of exemplary materials (homeostatic setting); 3 = organisation or association commissions a comparative study of selection procedures (incremental setting); 4 = education agency or organisation convenes a conference on selection practices (incremental setting); 5 = education agency or organisation commissions a committee to analyse the attributes

of materials (incremental setting); 6 = education agency or organisation commissions a committee to select exemplary materials (incremental setting); 7 = education agency or organisation commissions a committee to identify information and communication technology media requirements (incremental setting); 8 = education agency or organisation provides an on-line searchable database of information on curriculum materials (neomobilistic setting); 9= education agency or organisation provides an on-line database of information on materials available on web sites; and 10 = education agency or organisation provides an on-line search engine for accessing web sites containing materials (neomobilistic setting).

The only restriction placed on each individual school's choice of curriculum materials is the imposition by unitary awarding bodies of materials recommended or approved in specifications for meeting requirements for the General Certificate of Secondary Education (GCSE) and the General Certificate of Education (GCE). Table 7 shows the countries and unitary awarding bodies in the rows, and the features of ten key procedures applied during the selection process in the columns. Materials were selected for the secondary level by two of the three unitary awarding bodies in England and Wales, as well as in Northern Ireland. Materials were selected for the post-compulsory level by unitary awarding bodies in England, Wales and Northern Ireland. Unitary awarding bodies identified from materials in use those recommended or adopted for GSCE and GCE in England, Wales and Northern Ireland. However, selecting authorities failed to provide pre-selection displays of materials under consideration, permit publishing companies to make representations about their products before selection, and permit the public to comment on materials under consideration. For the secondary level, two unitary awarding bodies published subject lists containing a multiple number of recommended materials except for a multiple number of adopted materials for English, and one unitary awarding body published a subject list containing a multiple number of adopted materials for English. For the post-compulsory level, three unitary awarding bodies published subject lists containing a multiple number of recommended materials except for a multiple number of adopted materials for English, and one unitary awarding body published a subject list containing a multiple number of adopted materials for English. The flexibility given to schools to adopt materials was restricted for the secondary and post-compulsory levels in England, Wales and Northern Ireland by adopted lists of literary materials for English.

TABLE 7

KEY FEATURES OF THE SELECTION PROCESS IN THE COUNTRIES

State	Feature									
	1	2	3	4	5	6	7	8	9	10
England and Wales										
Edexcel	BS	BS	U	-	-	-	A	A	-	E
Oxford Cambridge and RSA										
Examinations	-	BS	U	-	-	-	-	A	-	E
Assessment and Qualifications Alliance	BS	BS	U	-	-	-	E	E	-	E
Scotland	-	-	-	-	-	-	-	-	-	U
Northern Ireland	BS	BS	U	-	-	-	A	A	-	E

Key: 1 = selection process in the secondary level for GSCE is conducted by a unitary awarding body overseeing subject-based subcommittees (BS); 2 = selection process in the post-compulsory level for GCE is conducted by a unitary awarding body overseeing subject-based subcommittees (BS); 3 = materials identified from materials in use in (U); 4 = pre-selection public displays; 5 = publisher participation in hearings with the selecting authority; 6 = public participation in hearings with the selecting authority; 7 = selecting authority for the secondary level publishes subject lists containing a multiple number of recommended materials except for a multiple number of adopted materials for English (A), or a subject list containing a multiple number of adopted materials for English (E); 8 = selecting authority for the post-compulsory level publishes subject lists containing a multiple number of recommended materials except for a multiple number of adopted materials for English (A), or a subject list containing a multiple number of adopted materials for English (E); 9 = adopting authority organises a post-selection exposition (E); and 10 = local adoption is unrestricted (U), or generally unrestricted, but restricted to the adopted list of materials for English in the post-secondary level (E).

United States of America

National Level

Although neither federal government agencies nor national professional associations, responsible for developing the national standards documents, have powers to select curriculum resources to support implementation of these standards, both types of organisations became involved in this activity. This involvement took the form of specifying selection criteria, appointing committees and establishing projects to select exemplary materials, and designing on-line services to select web-based resources.

Analysis of strategies relating to the selection of curriculum materials indicated that a total of eleven activities were undertaken by federal government agencies and national professional associations to maintain, improve or apply new solutions to the selection of curriculum materials for meeting national content standards. Whilst the United States Department of

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Education undertook four activities, the National Science Foundation and affiliated centres undertook two activities and the National Education Goals Panel undertook one activity, four national professional associations undertook one activity each.

Table 8 presents a matrix indicating the organisations involved in standards-based education reform in the rows, and the categories of activities relating to the selection of curriculum materials for meeting national content standards in the columns. If the categories of activities are classified according to decision setting, it was found that there was an even distribution in frequency of activities across each decision setting. The single category within the homeostatic decision setting accounted for two activities, three categories within the incremental decision setting were each responsible for two activities, and three categories within the neomobilistic decision setting were each responsible for one activity.

TABLE 8

MATRIX OF ACTIVITIES USED BY NATIONAL ORGANISATIONS TO SELECT CURRICULUM MATERIALS FOR MEETING NATIONAL CONTENT STANDARDS

Organisation	Category of Activities									
	1	2	3	4	5	6	7	8	9	10
National Education Goals Panel: Standards Implementation Study	0	0	1	0	0	0	0	0	0	0
National Association of State Textbook Administrators: Semi-annual Reports	0	0	1	0	0	0	0	0	0	0
U.S. Department Of Education: Mathematics and Science Expert Panel	0	0	0	0	0	1	0	0	0	0
Eisenhower National Clearinghouse	0	0	0	0	0	0	0	1	0	0
Gateway to Educational Materials	0	0	0	0	0	0	0	0	1	0
Federal Resources for Educational Excellence	0	0	0	0	0	0	0	0	0	1
National Science Foundation:										

TABLE 8 (cont.)

MATRIX OF ACTIVITIES USED BY NATIONAL ORGANISATIONS TO SELECT CURRICULUM MATERIALS FOR MEETING NATIONAL CONTENT STANDARDS

Organisation	Category of Activities									
	1	2	3	4	5	6	7	8	9	10
Middle School Science Study	0	0	0	0	1	0	0	0	0	0
Center for Enhancement of Science Education	0	0	0	0	0	1	0	0	0	0
National Council of Teachers of Mathematics: 2000 National Mathematics Standards	1	0	0	0	0	0	0	0	0	0
American Association for the Advancement of Science: Project 2061	0	0	0	0	1	0	0	0	0	0
National Academy of Sciences: National Science Standards	1	0	0	0	0	0	0	0	0	0
Total	2	0	2	0	2	2	0	1	1	1

Key: 1 = education agency or subject association provides guidelines or criteria for selecting materials in curriculum documents (homeostatic setting); 2 = education agency or subject association provides a list of exemplary materials (homeostatic setting); 3 = organisation or association commissions a comparative study of selection procedures (incremental setting); 4 = education agency or organisation convenes a conference on selection practices (incremental setting); 5 = education agency or organisation commissions a committee to analyse the attributes of materials (incremental setting); 6 = education agency or organisation commissions a committee to select exemplary materials (incremental setting); 7 = education agency or organisation commissions a committee to identify information and communication technology media requirements (incremental setting); 8 = education agency or organisation provides an on-line searchable database of information on curriculum materials (neomobilistic setting); 9= education agency or organisation provides an on-line database of information on materials available on web sites; and 10 = education agency or organisation provides an on-line search engine for accessing web sites containing materials (neomobilistic setting).

State Level

The pattern of transactions in the selection of curriculum materials in the materials' marketplace in the United States may be best understood by considering the state-level and local-level adoption states as separate groups. At present, 21 states together with the Department of Defence Education Activity (DoDEA) operate state-level adoption procedures, whilst in 29 states and the District of Colombia adoption of curriculum materials is the responsibility of local

education agencies. The only major change to this pattern during the period covered by this study was the abandonment of state-level adoption in Arizona for local-level adoption in 1995, although several state-level adoption states made major modifications to their selection procedures during this period.

Analysis of strategies relating to the selection of curriculum materials indicated that a total of 101 activities were undertaken by state education agencies, other education organisations and publishing companies to maintain, improve or apply new solutions to the selection of curriculum materials for meeting state content standards. If these 101 activities are grouped according to whether they were undertaken by state-level or local-level adoption states, a statistical difference is evident. The 22 state-level adoption systems undertook 69 activities (68.3 percent), whilst the 30 local-level adoption systems undertook only 32 activities (31.7 percent). Whilst each of the state-level adoption systems performed from one to six activities, each of the local-level adoption systems performed only from one to three activities, excluding eight systems, which undertook no activities.

State-Level Adoption States

Table 9 presents a matrix indicating the state-level adoption states in the rows, and the categories of activities used to select curriculum materials for meeting state content standards in the columns. If the categories of activities are grouped according to decision setting, it was found that there was an uneven distribution in frequency of activities across each decision setting, although representation of activities in the homeostatic decision setting was high with 26 cases (37.7 percent). By far the most commonly employed strategy within the homeostatic decision setting, sequencing of curriculum review and materials' adoption cycles, occurred in 13 state-level adoption systems. The representation of activities occurring within incremental decision settings was lower with 13 cases (18.8 percent). Whilst the practices of requiring publishing companies to supply correlations of submitted materials or state-level selection committees to correlate materials under consideration with state content standards were common, the use of the technique of curriculum alignment was uncommon. The representation of activities occurring within the neomobilistic decision setting was high with 30 cases (43.5 percent). Of the six state-level adoption states reporting legislative changes to textbook adoption statutes, Kentucky and Virginia increased flexibility at the local level, whilst changes occurring in California, Florida, Louisiana and Texas aimed at limiting flexibility at the local level. The invention, testing and diffusion of new solutions in the forms of on-line ordering systems, and searchable databases providing information on state-adopted materials were common.

TABLE 9

MATRIX OF ACTIVITIES USED BY STATE-LEVEL ADOPTION STATES TO SELECT CURRICULUM MATERIALS FOR MEETING STATE CONTENT STANDARDS

State	Category of Activities									
	1	2	3	4	5	6	7	8	9	10
Alabama	0	0	1	0	0	0	1	0	0	0
Arkansas	0	0	1	1	0	0	0	0	0	0
California	1	1	1	0	0	0	3	0	0	1
DoDEA	0	0	1	1	0	0	0	0	0	0
Florida	1	0	0	1	0	2	1	0	1	1
Georgia	0	1	1	1	0	0	0	0	0	0
Idaho	0	0	0	1	0	1	1	0	0	0
Indiana	1	1	0	0	0	0	0	0	0	0
Kentucky	0	2	1	0	0	0	0	0	0	2
Louisiana	0	0	0	0	0	1	1	0	0	1
Mississippi	0	0	1	0	0	0	0	0	0	0
Nevada	0	1	0	1	0	0	0	0	0	0
New Mexico	0	0	1	1	0	1	0	0	0	0
North Carolina	0	0	1	0	1	0	1	0	0	0
Oklahoma	0	0	0	0	0	1	0	0	0	0
Oregon	0	0	0	1	0	1	0	0	0	0
South Carolina	1	0	0	1	0	1	1	0	0	0
Tennessee	0	0	1	1	0	1	0	0	0	0
Texas	1	1	1	0	0	1	1	0	0	1
Utah	0	0	1	1	0	1	1	0	0	0
Virginia	0	1	0	1	0	0	0	0	0	1
West Virginia	0	0	1	0	0	0	0	0	0	0
Total	5	8	13	12	1	11	11	0	1	7

Key: 1 = education agency provides guidelines or criteria for selecting materials in curriculum documents (homeostatic setting); 2 = education agency or accreditation authority provides a list of exemplary materials (homeostatic setting); 3 = education agency sequences curriculum review and materials' adoption cycles (homeostatic setting); 4 = education agency or publishing companies correlate materials with curriculum standards (incremental setting); 5 = education agency provides a curriculum alignment process (incremental setting); 6 = education agency or depository provides an on-line ordering system for materials (neomobilistic setting); 7 = education agency, depository or organisation provides an on-line searchable database of information on materials (neomobilistic setting); 8 = organisation provides an on-line searchable database of correlated materials and curriculum standards (neomobilistic setting); 9 = organisation provides a modular training program for selection committee members (neomobilistic setting); and 10 = legislature enacts a statutory change in an adoption procedure (neomobilistic setting).

Textbook adoption statutes mandate the procedures used to select materials in state-level adoption states. Table 10 shows the state-level adoption states in the rows and the features of ten key procedures applied during the selection process in the columns. The selection of materials was conducted by the state board of education in one state, the state board overseeing

subject-based committees in two states, and the state board overseeing independent reviewers in one state. The chief state school officer oversaw subject-based committees in three states, whilst the program supervisor oversaw regional committees in one agency. Selection committees selected materials in two states, whilst selection committees oversaw independent reviewers in five states, subject-based subcommittees in three states, subject-based subcommittees for two media categories in one state, regional subcommittees in two states, and a subject-based subcommittee, a content subcommittee and a social content committee in one state. Adopting authority was vested in the state board in seventeen states, the chief state school officer in one state, a supervisory committee in one agency, and the selection committee in two states, whilst there was no formal adoption in one state. Publishing companies submitted materials reviewed by selecting bodies in 21 states, whilst in one state local school districts nominated materials for review. Adopting authorities provided pre-adoption displays of submitted materials for public comment in 13 states. Publishing companies were permitted to make representations about their products to selection committees before adoption in eight states, subject-based committees in six states, reviewers in one state, and the social content committee in one state, whilst seven states or agencies did not permit publishers to make representations. The public was permitted to comment on submitted materials before state boards in seven states, selection committees in seven states, subject-based committees in two states, and the social content committee in one state, whilst ten states or agencies did not permit public comments. Adopting authorities published lists containing a prescribed number of state-adopted materials for each subject in six states. Adopting authorities published lists containing a multiple number of state-adopted materials for each subject in twelve states. Adopting authorities published a multiple number of recommended materials for each subject in two states. Adopting authorities published a multiple number of materials correlated to the state standards for each subject in one state, and multiple lists of conforming and non-conforming materials for each subject in one state. The period of adoption cycles for all subject areas operated from four years in two states, five years in three states, six years in thirteen states, and seven years in two states. California and Texas, the two most populous states, operated separate adoption cycles for core subjects and other subjects. Of the ten states familiarising local school districts with state-adopted materials, seven organised publishers' caravans and three presented expositions. The flexibility given to local school districts to adopt non-adopted materials varied from restriction to the state-adopted list in five states, excluding Texas, which restricted adoption for the core subjects only, to open to substitution on three grounds. Petitioning by individual school districts was permitted in one state. Petitioning by a group of school districts and by individual school districts in the case of new and innovative materials was permitted in two states. Petitioning by individual school districts in the case of new and innovative materials was permitted in one state. Five states permitted unrestricted adoption of

non-adopted materials, excluding Texas, which permitted unrestricted adoption for the enrichment subjects only.

TABLE 10

KEY FEATURES OF THE SELECTION PROCESS IN STATE-LEVEL ADOPTION STATES

State	Feature									
	1	2	3	4	5	6	7	8	9	10
Alabama	CC	B	P	D	C	C, B	P	A=6	-	S
Arkansas	BS	B	P	-	S	-	P	A=6	C	G
California	SS	B	P	D	S, L	S, L, C, B	M	C=6, O=8	-	I
DoDEA	OR	S	P	-	-	-	M	A=6	-	R
Florida	OC	O	P	-	S	S	M	A=6	-	R
Georgia	CR	B	P	D	-	-	R	A=6	-	U
Idaho	CI	B	P	D	C	C	M	A=5	E	I
Indiana	CI	B	P	D	C	C	P	A=6	C	I
Kentucky	CM	C	P	-	C	-	R	A=6	E	U
Louisiana	CI	B	P	D	C	C, B	P	A=7	-	I
Mississippi	BS	B	P	-	S	-	P	A=6	C	G
Nevada	SB	B	D	-	-	-	M	A=4	-	R
New Mexico	CI	B	P	D	-	B	M	A=6	C	R
North Carolina	CR	B	P	-	-	-	M	A=5	E	U
Oklahoma	CI	C	P	D	C	C	P	A=6	C	N
Oregon	BI	B	P	D	R	B	M	A=7	C	I
South Carolina	CS	B	P	D	S	B	M	A=4	-	I
Tennessee	CS	B	P	D	C	C	M	A=6	C	R
Texas	OC	B	P	D	S	B	D	C=6, O=A	-	C-R, O-U
Utah	CS	B	P	-	-	-	M	A=5	-	U
Virginia	OC	-	P	D	-	-	C	A=6	-	U
West Virginia	CC	B	P	-	C	-	M	A=6	-	I

Key: 1 = selection process is conducted by the state board (SB), state board overseeing subject-based committees (BS), state board overseeing independent reviewers (BI), chief state school officer overseeing subject-based committees (OC), program supervisor overseeing regional committees (OR), selection committee (CC), selection committee overseeing independent reviewers (CI), selection committee overseeing subject-based subcommittees (CS), selection committee overseeing subject-based subcommittees for two media categories (CM), selection committee overseeing regional subcommittees (CR), or selection committee overseeing a subject-based subcommittee, a content subcommittee and a social content committee (SS); 2 = adopting authority is vested in the state board (B), chief state school officer (O), supervisory committee (S), or selection committee (C); 3 = materials are submitted by publishing companies (P), or recommended by local school districts (D); 4 = adopting authority organises pre-adoption public displays (D); 5 = publishers participate in hearings with the selection committee (C), subject-based committees (S), reviewers (R), or social content committee (L); 6 = public participates in hearings with the state board (B), selection committee (C), subject-based committees (S), or social content committee (L); 7 = adopting authority publishes a list containing a prescribed number of state-adopted materials (P), a multiple number of state-adopted materials (M), a multiple number of recommended materials (R), a multiple number of materials correlated to the state standards (C), or separate state-adopted lists containing multiple numbers of conforming and non-conforming materials (D); 8 = adoption cycles for all

subjects (A) are prescribed for a period of years (N = ...), core subjects (C) are prescribed for a period of years (N = ...) and other subjects (O) are prescribed for a period of years (N = ...) or for a period of years determined by the adopting authority (A); 9 = adopting authority organises a post-adoption publishers' caravan (C), or exposition (E); and 10 = local adoption is restricted to the state-adopted list (R), open to substitution by specific school districts through petition (S), open to substitution by a group of school districts through petition, and by individual school districts through petition in the case of the availability of new and innovative materials (G), open to substitution by individual school districts through petition in the case of the availability of new and innovative materials (N), open to substitution by individual school districts through petition (I), or unrestricted (U).

Local-Level Adoption States

Table 11 presents a matrix indicating the local-level adoption states in the rows, and the categories of activities used to select curriculum materials for meeting state content standards in the columns. If the categories of activities are grouped according to decision setting, it was found that there was an uneven distribution in frequency of activities across each decision setting, with categories within the homeostatic decision setting representing a substantially higher number with 18 cases (56.3 percent). Lists of resource materials and the specification of selection criteria, usually in curriculum frameworks, were the most frequently occurring activities. The representation of activities occurring within the incremental decision setting was low with 7 cases (21.9 percent). All these cases were accounted for by the use of curriculum alignment as a technique for matching curriculum resources to state content standards. Furthermore, the representation of activities occurring within the neomobilistic decision setting was also low with only 7 cases (21.9 percent).

TABLE 11

MATRIX OF ACTIVITIES USED BY LOCAL-LEVEL ADOPTION STATES TO SELECT CURRICULUM MATERIALS FOR MEETING STATE CONTENT STANDARDS

State	Category of Activities									
	1	2	3	4	5	6	7	8	9	10
Alaska	0	1	0	0	0	0	0	0	0	0
Arizona	0	0	0	0	0	0	0	0	0	1
Colorado	0	0	0	0	0	0	0	0	0	0
Connecticut	0	0	0	0	1	0	0	0	1	0
Delaware	1	1	0	0	0	0	1	0	0	0
District of Columbia	0	0	0	0	0	0	0	0	0	0
Hawaii	0	0	0	0	0	0	0	0	0	0
Illinois	0	0	0	0	1	0	1	0	0	0
Iowa	0	0	0	0	0	0	0	0	0	0
Kansas	0	1	0	0	0	0	0	0	0	0
Maine	0	0	0	0	1	0	0	0	0	0

TABLE 11 (cont.)

MATRIX OF ACTIVITIES USED BY LOCAL-LEVEL ADOPTION STATES TO SELECT CURRICULUM MATERIALS FOR MEETING STATE CONTENT STANDARDS

State	Category of Activities									
	1	2	3	4	5	6	7	8	9	10
Maryland	0	0	0	0	0	0	0	0	0	0
Massachusetts	1	1	0	0	0	0	0	0	0	0
Michigan	0	1	0	0	1	0	0	0	0	0
Minnesota	1	1	0	0	0	0	1	0	0	0
Missouri	0	0	0	0	0	0	0	0	0	0
Montana	0	0	1	0	0	0	0	0	0	0
Nebraska	0	0	0	0	1	0	0	0	0	0
New Hampshire	0	1	0	0	0	0	0	0	0	0
New Jersey	1	0	0	0	0	0	0	0	0	0
New York	1	0	0	0	0	0	1	0	0	0
North Dakota	0	0	0	0	0	0	0	0	0	0
Ohio	1	1	0	0	0	0	0	0	0	0
Pennsylvania	1	0	0	0	1	0	0	0	0	0
Rhode Island	1	1	0	0	0	0	0	0	0	0
South Dakota	0	0	0	0	1	0	0	0	0	0
Vermont	0	0	0	0	0	0	0	0	0	0
Washington	0	0	0	0	0	0	0	1	0	0
Wisconsin	0	0	0	0	0	0	0	0	0	0
Wyoming	0	0	0	0	0	0	0	0	0	0
Total	8	9	1	0	7	0	4	1	1	1

Key: 1 = education agency provides guidelines or criteria for selecting materials in curriculum documents (homeostatic setting); 2 = education agency or accreditation authority provides a list of exemplary materials (homeostatic setting); 3 = education agency sequences curriculum review and materials' adoption cycles (homeostatic setting); 4 = education agency or publishing companies correlate materials with curriculum standards (incremental setting); 5 = education agency provides a curriculum alignment process (incremental setting); 6 = education agency or depository provides an on-line ordering system for materials (neomobilistic setting); 7 = education agency, depository or organisation provides an on-line searchable database of information on materials (neomobilistic setting); 8 = organisation provides an on-line searchable database of correlated materials and curriculum standards (neomobilistic setting); 9 = organisation provides a modular training program for selection committee members (neomobilistic setting); and 10 = legislature enacts a statutory change in an adoption procedure (neomobilistic setting).

Australia

National Level

Although the education agencies, responsible for developing the national statements and profiles, are not responsible for selecting curriculum resources to support their implementation, such agencies and other organisations became involved in this activity. This involvement took

the form of conducting a comparative study of selection procedures. In addition, the Australian Publishers Association coordinated a committee to select exemplary materials.

Analysis of strategies relating to the selection of curriculum materials indicated that a total of two activities were undertaken to improve the selection of curriculum materials for meeting the national statements and profiles. The Curriculum Corporation undertook one activity, whilst the Australian Publishers Association undertook the only other activity.

Table 12 presents a matrix indicating the organisations involved in national curriculum reform in the rows, and the categories of activities relating to the selection of curriculum materials for meeting the national statements and profiles in the columns. If the categories of activities are grouped according to decision setting, it was found that there was an uneven distribution in frequency of activities across each decision setting. Although the homeostatic and neomobilistic decision settings were unrepresented, two categories within the incremental decision setting were each responsible for one activity.

TABLE 12

MATRIX OF ACTIVITIES USED BY NATIONAL ORGANISATIONS TO SELECT CURRICULUM MATERIALS FOR MEETING THE NATIONAL STATEMENTS AND PROFILES

Organisation	Category of Activities									
	1	2	3	4	5	6	7	8	9	10
Curriculum Corporation: Guidelines for Curriculum Development	0	0	1	0	0	0	0	0	0	0
Australian Publishers Association: Awards for Excellence in Educational Publishing	0	0	0	0	0	1	0	0	0	0
Total	0	0	1	0	0	1	0	0	0	0

Key: 1 = education agency or subject association provides guidelines or criteria for selecting materials in curriculum documents (homeostatic setting); 2 = education agency or subject association provides a list of exemplary materials (homeostatic setting); 3 = organisation or association commissions a comparative study of selection procedures (incremental setting); 4 = education agency or organisation convenes a conference on selection practices (incremental setting); 5 = education agency or organisation commissions a committee to analyse the attributes of materials (incremental setting); 6 = education agency or organisation commissions a committee to select exemplary materials (incremental setting); 7 = education agency or organisation commissions a committee to identify information and communication technology media requirements (incremental setting); 8 = education agency or organisation provides an on-

line searchable database of information on curriculum materials (neomobilistic setting); 9= education agency or organisation provides an on-line database of information on materials available on web sites; and 10 = education agency or organisation provides an on-line search engine for accessing web sites containing materials (neomobilistic setting).

State Level

The pattern for selecting curriculum materials in the materials' marketplace in Australia may be best understood by considering two levels of responsibility within state education systems. Although certain features of centralised state-level adoption have become institutionalised in New South Wales, Queensland and Western Australia, individual schools have ultimate responsibility for selecting materials for the primary and secondary levels in all states and territories. On the other hand, accreditation agencies in each state and territory have acquired responsibility for adopting materials selected by syllabus committees for courses in grades 11 and 12.

Analysis of strategies relating to the selection of curriculum materials indicated that a total of thirteen activities were undertaken by state education agencies and accreditation agencies to maintain or apply new solutions to the selection of curriculum materials for meeting state curricula. Each of the state education systems performed one or two activities, excluding the Australian Capital Territory, which undertook no activities.

Table 13 presents a matrix indicating the states and territories in the rows, and the categories of activities used to select curriculum materials for meeting state curricula in the columns. If the categories of activities are grouped according to decision setting, it was found that there was an uneven distribution in frequency of activities across each decision setting, with no activities being recorded for the incremental decision setting. Two strategies within the homeostatic decision setting, specifying selection criteria and using lists of exemplary materials, occurred in seven state education systems. The only strategy within the neomobilistic decision setting, providing on-line searchable databases of information on materials, occurred in four state education systems.

TABLE 13

MATRIX OF ACTIVITIES USED BY STATE AND TERRITORY EDUCATION AGENCIES TO SELECT CURRICULUM MATERIALS FOR MEETING STATE CURRICULA

State	Category of Activities									
	1	2	3	4	5	6	7	8	9	10
Australian Capital Territory	0	0	0	0	0	0	0	0	0	0
New South Wales	1	1	0	0	0	0	1	0	0	0
Northern Territory	0	1	0	0	0	0	0	0	0	0
Queensland	0	1	0	0	0	0	1	0	0	0
South Australia	0	1	0	0	0	0	0	0	0	0
Tasmania	0	1	0	0	0	0	1	0	0	0
Victoria	0	2	0	0	0	0	0	0	0	0
Western Australia	0	1	0	0	0	0	1	0	0	0
Total	1	8	0	0	0	0	4	0	0	0

Key: 1 = education agency provides guidelines or criteria for selecting materials in curriculum documents (homeostatic setting); 2 = education agency or accreditation authority provides a list of exemplary materials (homeostatic setting); 3 = education agency sequences curriculum review and materials' adoption cycles (homeostatic setting); 4 = education agency or publishing companies correlate materials with curriculum standards (incremental setting); 5 = education agency provides a curriculum alignment process (incremental setting); 6 = education agency or depository provides an on-line ordering system for materials (neomobilistic setting); 7 = education agency, depository or organisation provides an on-line searchable database of information on materials (neomobilistic setting); 8 = organisation provides an on-line searchable database of correlated materials and curriculum standards (neomobilistic setting); 9 = education agency or organisation provides a modular training program for selection committee members (neomobilistic setting); and 10 = legislature enacts a statutory change in an adoption procedure (neomobilistic setting).

The selection of curriculum materials in the states is complicated by the pattern of separate curricular provisions for the compulsory and post-compulsory levels of schooling. Table 14 shows the states in the rows, and the features of ten key procedures applied during the selection process in the columns. Materials were selected for kindergarten to grade 10 by state education agencies overseeing independent reviewers in three states, whilst centralised procedures were not applied in the remaining five states and territories. Materials were selected for grades 11 and 12 by accreditation boards overseeing subject-based committees in seven states and territories, whilst the accreditation board oversaw subject-based subcommittees and a social content committee for literary materials in one state. Publishing companies submitted materials reviewed by reviewers for kindergarten to grade 10 in three states. However, curriculum committees identified from materials in use those recommended or adopted for grades 11 and 12 in seven states and territories, whilst curriculum committees approved materials recommended for grades 11 and 12 by school councils in one territory. Selecting authorities

failed to provide pre-selection displays of submitted materials, permit publishing companies to make representations about their products before selection, and permit the public to comment on submitted materials. Selecting authorities for kindergarten to grade 10 published lists containing a multiple number of recommended materials in three states. Selecting authorities for grades 11 and 12 published subject lists containing a multiple number of recommended materials in three states and territories, and subject lists containing a multiple number of recommended materials except for a multiple number of state-adopted materials for English in four states. Only one state familiarised schools with selected materials through an exposition. The flexibility given to schools to adopt materials was unrestricted for kindergarten to grade 10 in all states and territories, but restricted for grades 11 to 12 in four states by state-adopted lists of English materials.

TABLE 14

KEY FEATURES OF THE SELECTION PROCESS IN THE STATES

State	Feature									
	1	2	3	4	5	6	7	8	9	10
Australian Capital Territory	-	BS	C	-	-	-	-	-	-	U
New South Wales	DI	SS	P, U	-	-	-	R	A	-	E
Northern Territory	-	BS	U	-	-	-	-	R	-	U
Queensland	DI	BS	P, U	-	-	-	R	R	-	U
South Australia	-	BS	U	-	-	-	-	A	-	E
Tasmania	-	BS	U	-	-	-	-	A	-	E
Victoria	-	BS	U	-	-	-	-	A	-	E
Western Australia	DI	BS	P, U	-	-	-	R	R	E	U

Key: 1 = selection process for kindergarten to grade 10 is conducted by the state department overseeing independent reviewers (DI); 2 = selection process for grades 11 and 12 is conducted by an accreditation board overseeing subject-based subcommittees (BS), or an accreditation board overseeing subject-based subcommittees and a social content committee for literary materials (SS); 3 = materials are submitted by publishing companies for kindergarten to grade 10 (P), identified from materials in use in schools for grades 11 and 12 (U), or recommended by school councils (C); 4 = pre-selection public displays; 5 = publisher participation in hearings with the selecting authority; 6 = public participation in hearings with the selecting authority; 7 = selecting authority for kindergarten to grade 10 publishes lists containing a multiple number of recommended materials (R); 8 = selecting authority for grades 11 and 12 publishes subject lists containing a multiple number of recommended materials (R), or subject lists containing a multiple number of recommended materials except for a multiple number of state-adopted materials for English (A); 9 = adopting authority organises a post-selection exposition (E); and 10 = local adoption is unrestricted (U), or generally unrestricted, but restricted to the state-adopted list of materials for English in grades 11 and 12 (E).

Use

United Kingdom

The documents outlining the National Curriculum for England and Wales, the National Guidelines for Scotland, and the Northern Ireland Curriculum detail appropriate materials teachers should use in specific terms. This guidance is supported by a comprehensive accountability system for collecting data on standards of achievement, the quality of education in schools, and a wide range of other issues, including the provision of curriculum resources in schools. Together with the findings of studies on the use of curriculum materials commissioned by the Publishers Association's Educational Publishers Council, these data have highlighted severe shortages of curriculum resources in schools, particularly in England. However, no instances of governmental agencies and other organisations applying new solutions for implementing curriculum materials in schools were identified.

Analysis of strategies relating to the use of curriculum materials indicated that a total of 64 activities were undertaken by curriculum agencies to specify the use of curriculum materials in schools for meeting national curriculum orders, and by the Publishers Association to survey the use of curriculum materials in schools. If the fifty-nine recommendations specifying the use of curriculum materials in schools for meeting national curriculum orders are categorised according to their sources, their balance and distribution are relatively even across the four countries. A high degree of guidance was provided by twenty-two recommendations for using curriculum resources detailed in the National Curriculum orders for England and Wales and by twenty-one recommendations for using curriculum resources detailed in the Northern Ireland Curriculum orders. A slight reduction in the guidance was provided by sixteen recommendations for using curriculum resources detailed in the National Guidelines for Scotland. The Office for Standards in Education (OFSTED) in England, Her Majesty's Inspectorate for Education and Training in Wales, HM Inspectorate of Education in Scotland, and the Northern Ireland Education and Training Inspectorate provided a consistent coverage of data on the provision and use of curriculum resources in schools.

Table 15 presents a matrix indicating the organisations involved in national curriculum reform in the rows, and the categories of activities relating to the use of curriculum materials for meeting the national curriculum orders in the columns. If the categories of activities are classified according to decision setting, it was found that there was an uneven distribution in frequency of activities across decision settings. Whilst the neomobilistic decision setting was unrepresented, five categories within the homeostatic decision setting were responsible for fifty-

nine recommendations, and two categories within the incremental decision setting were responsible for five activities.

TABLE 15

MATRIX OF STRATEGIES RECOMMENDED OR APPLIED BY NATIONAL ORGANISATIONS FOR USING CURRICULUM MATERIALS TO MEET NATIONAL CURRICULUM ORDERS

Organisation	Category of Activities									
	1	2	3	4	5	6	7	8	9	10
England and Wales										
Department for Education and Skills and Qualifications and Curriculum Authority: 1999 National Curriculum										
English	1	1	1	0	0	0	0	0	0	0
Mathematics	0	0	0	0	1	0	0	0	0	0
Science	0	0	0	0	1	0	0	0	0	0
Design and Technology	0	0	0	0	1	0	0	0	0	0
Information and Communication Technology	0	0	1	0	0	0	0	0	0	0
History	1	1	1	1	0	0	0	0	0	0
Geography1	1	1	0	0	0	0	0	0	0	
Modern Foreign Languages	1	1	1	0	0	0	0	0	0	0
Art and Design	0	0	1	1	0	0	0	0	0	0
Music	0	0	1	0	0	0	0	0	0	0
Physical Education	0	1	1	0	0	0	0	0	0	0
Publishers Association	0	0	0	0	0	0	1	0	0	0
England										
Office for Standards in Education	0	0	0	0	0	1	0	0	0	0
Wales										
Her Majesty's Inspectorate for Education and Training in Wales	0	0	0	0	0	1	0	0	0	0
Scotland										
Scottish Executive Education Department: National Guidelines										
English Language	1	1	1	0	0	0	0	0	0	0
Mathematics	1	0	1	1	0	0	0	0	0	0

TABLE 15 (cont.)

MATRIX OF STRATEGIES RECOMMENDED OR APPLIED BY NATIONAL ORGANISATIONS FOR USING CURRICULUM MATERIALS TO MEET NATIONAL CURRICULUM ORDERS

Organisation	Category of Activities									
	1	2	3	4	5	6	7	8	9	10
Environmental Studies	1	1	1	0	0	0	0	0	0	0
Expressive Arts	0	1	1	1	0	0	0	0	0	0
Religious and Moral Education	1	1	1	1	0	0	0	0	0	0
HM Inspectorate of Education	0	0	0	0	0	1	0	0	0	0
Northern Ireland Department of Education for Northern Ireland: 1996 Northern Ireland Curriculum										
English	1	1	1	1	0	0	0	0	0	0
Mathematics	0	0	0	0	1	0	0	0	0	0
Science and Technology	1	1	1	0	0	0	0	0	0	0
History	1	1	1	0	0	0	0	0	0	0
Geography1	1	1	0	0	0	0	0	0	0	
Art and Design	1	1	1	1	0	0	0	0	0	0
Modern Languages	1	1	0	1	0	0	0	0	0	0
Northern Ireland Education and Training Inspectorate	0	0	0	0	0	1	0	0	0	0
Total	14	15	18	8	4	4	1	0	0	0

Key: 1 = education agency or subject association recommends using print materials in subject-based curriculum documents (homeostatic setting); 2 = education agency or subject association recommends using audiovisual materials in subject-based curriculum documents (homeostatic setting); 3 = education agency or subject association recommends using information and communication technology in subject-based curriculum documents (homeostatic setting); 4 = education agency or subject association recommends using everyday materials, authentic materials, concrete materials, or site visits in subject-based curriculum documents (homeostatic setting); 5 = education agency or subject association recommends using a variety of materials in subject-based curriculum documents (homeostatic setting); 6 = education agency or publishers association publishes data on the use of materials in evaluative reports on schools, local or national systems (incremental setting); 7 = education agency or publishers association commissions studies on the use of materials in schools (incremental setting); 8 = organisation surveys the level of adoption of textbooks in key state and local systems (incremental setting); 9 = agency provides dissemination centres to facilitate adoption and implementation of materials (neomobilistic setting); and 10 = organisation recommends a strategy for installing, monitoring and modifying materials in use in schools (neomobilistic setting).

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United States

Several national content standards documents fail to detail appropriate materials teachers should use in particular subject areas. Evidently related to the lack of consensus between different subject-based professional associations responsible for developing national content standards, this shortcoming is most apparent in the revised Mathematics standards published in 2000 and the Civics and Government standards, but also is found in the Physical Education, Health Education, and Economics standards. Furthermore, guidance provided in national content standards documents is not supported by the systematic collection and reporting of data on the provision and use of curriculum materials in schools.

Analysis of strategies relating to the use of curriculum materials indicated that a total of nineteen activities were undertaken by national professional associations to specify the use of curriculum materials in schools for meeting national content standards. In addition, the American Association of Publishers surveyed the use of curriculum materials in schools, and governmental agencies and other organisations applied new solutions for implementing curriculum materials in schools. If these nineteen activities are categorised according to whether they refer to recommendations specified in national content standards documents or to improving the use of curriculum materials in schools and to new solutions for implementing curriculum materials in schools, the distribution is statistically different between recommendations and activities. Whilst fourteen recommendations for using curriculum resources were detailed in the national content standards documents, only two activities provided a limited coverage of data on the provision and use of curriculum resources in schools. Two activities were undertaken by the National Science Foundation and the Eisenhower Regional Consortia for Mathematics and Science to facilitate the adoption and implementation of curriculum resources, and one activity was undertaken by Connie Muther & Associates to recommend a strategy for installing, monitoring and modifying materials in use in schools.

Table 16 presents a matrix indicating the organisations involved in national curriculum reform in the rows, and the categories of activities relating to the use of curriculum materials for meeting the national content standards in the columns. If the categories of activities are classified according to decision setting, it was found that there was an uneven distribution in frequency of activities across decision settings. Whilst four categories within the homeostatic decision setting were responsible for fourteen recommendations, only two categories within the incremental decision setting were responsible for two activities, and two categories in the neomobilistic decision setting were responsible for three activities.

TABLE 16

MATRIX OF STRATEGIES RECOMMENDED OR USED BY NATIONAL ORGANISATIONS FOR USING CURRICULUM MATERIALS TO MEET THE NATIONAL CONTENT STANDARDS

Organisation	Category of Activities									
	1	2	3	4	5	6	7	8	9	10
National Content Standards:										
Science (1996)	1	1	1	0	0	0	0	0	0	0
History (1996)	1	0	0	0	0	0	0	0	0	0
Geography (1994)	1	0	1	0	0	0	0	0	0	0
English Language Arts (1996)	1	1	1	1	0	0	0	0	0	0
Foreign Languages (1996)	1	0	0	0	0	0	0	0	0	0
Social Studies (1994)	1	1	1	0	0	0	0	0	0	0
National Science Foundation	0	0	0	0	0	0	0	0	1	0
Eisenhower Regional Consortia for Mathematics and Science	0	0	0	0	0	0	0	0	1	0
Association of American Publishers	0	0	0	0	0	0	1	0	0	0
American Textbook Council	0	0	0	0	0	0	0	1	0	0
Connie Muther & Associates	0	0	0	0	0	0	0	0	0	1
Total	6	3	4	1	0	0	1	1	2	1

Key: 1 = education agency or subject association recommends using print materials in subject-based curriculum documents (homeostatic setting); 2 = education agency or subject association recommends using audiovisual materials in subject-based curriculum documents (homeostatic setting); 3 = education agency or subject association recommends using information and communication technology in subject-based curriculum documents (homeostatic setting); 4 = education agency or subject association recommends using everyday materials, authentic materials, concrete materials, or site visits in subject-based curriculum documents (homeostatic setting); 5 = education agency or subject association recommends using a variety of materials in subject-based curriculum documents (homeostatic setting); 6 = education agency or publishers association publishes data on the use of materials in evaluative reports on schools, local or national systems (incremental setting); 7 = education agency or publishers association commissions studies on the use of materials in schools (incremental setting); 8 = organisation surveys the level of adoption of textbooks in key state and local systems (incremental setting); 9 = agency provides dissemination centres to facilitate adoption and implementation of materials (neomobilistic setting); and 10 = organisation recommends a strategy for installing, monitoring and modifying materials in use in schools (neomobilistic setting).

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Australia

The national statements detail appropriate materials teachers should use in specific terms across the learning areas. However, this guidance is not supported by the systematic collection and reporting of data on the provision and use of curriculum materials in schools, nor the application of new solutions for implementing curriculum materials in schools.

Analysis of strategies relating to the use of curriculum materials indicated that a total of twenty-two activities were undertaken by the Curriculum Corporation to specify the use of curriculum materials in schools for meeting the national statements. In addition, the Australian Publishers Association and the Teaching Resources and Textbook Research Unit in the University of Sydney surveyed the use of curriculum materials in schools. If these twenty-two activities are categorised according to whether they refer to recommendations specified in the national statements or to improving the use of curriculum materials in schools, the distribution is statistically different between recommendations and activities. Whilst nineteen recommendations for using curriculum resources were detailed in the national statements, only three activities provided a limited coverage of data on the provision and use of curriculum resources in schools.

Table 17 presents a matrix indicating the organisations involved in national curriculum reform in the rows, and the categories of activities relating to the use of curriculum materials for meeting the national statements in the columns. If the categories of activities are classified according to decision setting, it was found that there was an uneven distribution in frequency of activities across decision settings. Whilst the neomobilistic decision setting was unrepresented, four categories within the homeostatic decision setting were responsible for nineteen recommendations, and the one category within the incremental decision setting was responsible for three activities.

TABLE 17

MATRIX OF STRATEGIES RECOMMENDED OR APPLIED BY NATIONAL ORGANISATIONS FOR USING CURRICULUM MATERIALS TO MEET THE NATIONAL STATEMENTS

Organisation	Category of Activities									
	1	2	3	4	5	6	7	8	9	10
Curriculum Corporation: 1994 National Statements:										
Mathematics	1	0	1	1	0	0	0	0	0	0
Science	1	1	1	0	0	0	0	0	0	0
Technology	1	0	1	0	0	0	0	0	0	0
English	1	1	0	1	0	0	0	0	0	0
Studies of Society and Environment	1	1	0	0	0	0	0	0	0	0
Health and Physical Education	1	0	0	1	0	0	0	0	0	0
Arts	1	0	0	0	0	0	0	0	0	0
Languages other than English	1	1	0	1	0	0	0	0	0	0
Civics Education Group: Discovering Democracy School Materials Project	0	0	0	0	0	0	1	0	0	0
Australian Publishers Association	0	0	0	0	0	0	1	0	0	0
Teaching Resources and Textbook Research Unit	0	0	0	0	0	0	1	0	0	0
Total	8	4	3	4	0	0	3	0	0	0

Key: 1 = education agency or subject association recommends using print materials in subject-based curriculum documents (homeostatic setting); 2 = education agency or subject association recommends using audiovisual materials in subject-based curriculum documents (homeostatic setting); 3 = education agency or subject association recommends using information and communication technology in subject-based curriculum documents (homeostatic setting); 4 = education agency or subject association recommends using everyday materials, authentic materials, concrete materials, or site visits in subject-based curriculum documents (homeostatic setting); 5 = education agency or subject association recommends using a variety of materials in subject-based curriculum documents (homeostatic setting); 6 = education agency or publishers association publishes data on the use of materials in evaluative reports on schools, local or national systems (incremental setting); 7 = education agency or publishers association commissions studies on the use of materials in schools (incremental setting); 8 = organisation surveys the level of adoption of textbooks in key state and local systems (incremental setting); 9 = agency provides dissemination centres to facilitate adoption and implementation of materials

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(neomobilistic setting); and 10 = organisation recommends a strategy for installing, monitoring and modifying materials in use in schools (neomobilistic setting).

Discussion

Development

The findings of the survey of publishers identified that most of the sampled publishing companies in each of the three countries were aligning their products to nationally agreed curricula or standards. The findings confirmed, however, that the size of the market affected publishers' decisions about the degree of attention they gave to curriculum documents, a key factor in determining which countries' or states' curricula and standards were most influential. On the other hand, education agencies and professional associations played only a subsidiary role in developing materials to support nationally agreed curricula and standards. An important departure from this low level of involvement is the increasingly important part education agencies are playing in applying information and communication technology to publish and exchange teacher-developed materials as a means of supporting the implementation of standards and curricula.

Although these publishing activities applied the planned change model characteristic of neomobilistic settings, its application has been institutionalised over a long period of time dating from the mid nineteenth century. An important attribute, however, has been the capacity of the publishing process to incorporate and integrate new technological advances, and diversify into new media. The evidence from the content analyses of products submitted by publishers suggests that large publishing companies, in particular, are more able to apply new technologies and diversify into new media. This finding indicates that a differential effect influences the feasibility of publishing companies of varying sizes to develop materials at a reasonable cost. Therefore, those companies that apply new technologies to develop materials, which address national curricula and standards more effectively through new media, are likely to increase the marketability and profitability of their products, since such materials are more likely to be acceptable to selection committees and teachers. The evidence suggests that publishing companies in each of the three countries are meeting the challenge of producing new materials that satisfy the needs of students in attaining nationally agreed curricula and standards.

It is apparent that the Publishers Association played a dynamic role in identifying reasons for shortages of curriculum materials by commissioning large-scale research studies to examine the provision of textbooks and other materials in British schools. The inadequate funding for

purchasing curriculum materials identified from these studies focused educators' attention on this issue, and forged an alliance between publishers and educators to tackle this problem. Between 1996 and 1999, the Qualifications and Curriculum Authority led this consortium in undertaking the extensive Educational Resources Project to analyse the attributes in curriculum resources. Work accomplished by this consortium identified the attributes of available materials and provided a mechanism for monitoring their quality. Although members of this consortium recognised that readjustment in the materials' marketplace is necessary to improve the quality of new materials, the lack of a strong tradition of research and understanding about the complex interaction of variables controlling the materials' marketplace mitigated against success in providing a solution. It is apparent that such a strategy requires the support of policy-makers and the publishing industry over an extended period to match the feasibility, marketability, profitability and acceptability of publishing curriculum resources to the needs of the educational system to be successful.

The issue of a strong tradition of research and understanding about the materials' marketplace is not a serious limitation in the United States. The evidence suggests that policy-makers, publishers and educators have gained clear understandings of key issues affecting the development of curriculum materials. The way that takeovers and mergers are changing the nature of the publishing industry is well recognised. The influence that strategies publishing companies employ to coordinate the development of new products to the adoption cycles of large state-level adoption states have on the content of materials marketed across the United States is widely appreciated. The differing demands that teachers and academics project for content in materials is well understood. In spite of a determined attempt made by national and state policy-makers in the mid 1980s to modify these practices, this effort faltered in the 1990s due to resistance from the prevailing system. The inability to modify this system in the past has been reinforced in some aspects and reduced in other aspects by the impact of national and state content standards. The need for publishers to address national and state content standards has most likely reduced the feasibility of producing new materials at a reasonable cost, but greater uniformity brought about by standards-based reform has increased their marketability and profitability, as well as acceptability to selection committees and teachers.

On the other hand, it is apparent that the poor understanding that most policy-makers, publishers and educators in Australia have about the variables controlling the materials' marketplace has not been corrected by a need to deal with a crisis relating to curriculum resources. Those projects that have been undertaken by education agencies have focused on developing materials for specific applications without translating the expertise gained from such work to more general contexts in which materials are produced with a view to improving

their quality. This situation has muted the impact of the national statements and state curricula on the development of new curriculum materials. The feasibility of producing them at a reasonable cost has probably been reduced, whilst greater uniformity in the curriculum has most likely increased their marketability and profitability, as well as acceptability to teachers.

Selection

A diverse range of activities influenced the selection of curriculum materials in the three countries. Although the selection of curriculum resources is not a function of national governmental agencies or professional associations, it is evident that such groups are becoming increasingly involved in these activities, particularly in the United States. On the other hand, the selection of curriculum resources has been carried out historically at the state, local or school levels in each of the three countries. The evidence from the study shows a quantitative difference in activities between educational systems that have centralised the selection of curriculum materials and those that select them on a more decentralised basis. Scholars researching issues related to textbooks and the curriculum have opposed the centralisation of selection procedures for various ethical reasons ranging from the limitations it imposes on teachers' decision-making to the efficacy of the decision-making process in providing resources that meet the needs of all students. It is evident that centralisation of these activities increases the concentration of expertise among administrators and members of selection committees. Therefore, the greater expertise that participants gain in the selection process in centralised procedures may offset limitations resulting from the lack of teachers' involvement in decision-making.

Although these activities encompassed the three decision settings, it was found from a comparison between state-level and local-level adoption states in the United States that concentration within particular settings varied between systems using centralised and decentralised procedures. A strong correlation existed between a high degree of centralisation, characterised by the involvement of special purpose selection committees, and a high incidence of activities in the neomobilistic setting, intended to make large changes for inventing, testing and diffusing new solutions to improve the selection of curriculum resources. However, it was impossible to generalise this finding across the three countries, because the number of cases referring to the United Kingdom and Australia was too small to draw any firm conclusion. However, the lack of reciprocity between education authorities in the three countries concerning policies relating to the selection of curriculum materials suggests important differences may exist, because selection procedures in the United Kingdom and Australia are almost exclusively decentralised.

The authority for selecting curriculum resources in the countries of the United Kingdom has been decentralised to individual schools to a greater extent than in either the United States or Australia. The only centralising influence is provided by unitary awarding bodies, which approve or recommend materials used in secondary schools across England, Wales and Northern Ireland. The highly decentralised nature of these selection procedures is responsible for a low degree of expertise among teachers, curriculum coordinators and administrators about issues relating to the selection of curriculum materials. However, the study showed that inadequate funding for purchasing curriculum resources to support implementation of the National Curriculum in schools in England has recently raised educators' perceptions about such issues. In 1996, the Qualifications and Curriculum Authority commissioned the National Foundation for Educational Research to conduct the International Review of Curriculum and Assessment Frameworks, in part, to identify procedures used in other countries to select and adopt curriculum materials. In 1996 and 1998, the Qualifications and Curriculum Authority convened conferences of stakeholders to consider alternative selection procedures that could be introduced. Whilst the outcome of these initiatives failed to change policy-makers' attitudes about the appropriateness of the prevailing pattern of decentralised decision-making used to select curriculum resources, it reinforced the collaborative approach arising between publishers and the educational community to implement strategies to improve the selection of curriculum resources. Therefore, it is apparent that the impact of curriculum reform in the United Kingdom has been more influential for the criterion of cost than the content, acceptability and usability of curriculum materials. This outcome is not surprising, since the extensive collection of data on the provision of curriculum resources in schools has focused on increasing the funds for purchasing materials. On the other hand, due consideration has not yet been given to improving decision-making in the selection of curriculum resources in terms of their content, acceptability and usability. Although this limitation has been muted by the outcome of these activities, the debate about defining an organised and sound decision-making process for selecting curriculum resources has only begun, and this discussion is largely confined to England.

Educational literature published since the 1920s, investigating the nature of selection procedures used in the states, has identified that the basic structure for the prevailing system governing procedures for selecting and adopting curriculum materials in the United States had been formed by 1900. An analysis of the key features of selection procedures used in the 21 state-level adoption states confirmed that the practice of state-level adoption evolved from a common ancestral line, although the variety between the features of different selection procedures in these states is now extensive. Commentary in educational literature has concentrated debate on the controversy between advocates of state-level and local-level

adoption, focusing the discussion in a framework of arguments presenting the advantages and disadvantages of each type. Content analyses has shown that whilst the legislation of state-level adoption states is characterised by regulations governing each facet of the selection process, such regulations are largely absent from the legislation of local-level adoption states. These regulations govern the role of the adopting authority, the composition of selection committees, the prescription of adoption cycles, the definition of selection criteria, the role of public participation, and the imposition of requirements and restrictions on publishing companies. A conclusion drawn from these studies that state-level adoption leads to a greater concentration of expertise in the decision-making process, supports the finding of this study that a significantly greater number of activities intended to improve the selection of curriculum resources occurred in state-level than in local-level adoption states. Furthermore, the proportion of activities occurring within the neomobilistic setting was significantly higher in state-level adoption states, whilst the opposite was true for activities in the homeostatic decision setting, although there was little difference in the proportions between the two types for activities in the incremental decision setting. Whilst the level of response between state-level and local-level adoption states to the impact of standards-based reform is substantially different with regard to the selection of curriculum resources, this difference is not so readily related to the criteria of content, acceptability, usability and cost of curriculum materials. Each criterion has been emphasised as a critical element in the selection process at different times. The evidence suggests that as various aspects of subject matter content coverage in materials became more important during the 1970s and 1980s, standards-based reform has reinforced the importance of content as the predominant criterion through the widespread practice of aligning curriculum materials to content standards.

Authority for selecting curriculum resources in the Australian states and territories has been divided by the dual system providing separate curricular provisions for the compulsory and post-compulsory levels. Analysis of the key features of selection procedures in the states and territories indicated that different procedures were used to select materials at each level. Although differences between the two levels in curricular provisions are being ameliorated by curriculum reforms, this effect has not yet modified the divergent ways materials are selected. Lacking the stimulation of a crisis affecting the existing role that curriculum resources play in Australian schools, it is unlikely that planned, systematic intervention to change such differentiated selection procedures will occur. Furthermore, there was no evidence that curriculum reforms in the states and territories had affected the selection of curriculum materials in terms of the criteria of cost, content, acceptability and usability.

Use

Several conclusions may be drawn from three main categories of information collected in the study about the use of curriculum resources. Documents developed centrally by national curriculum agencies specified recommendations about the use of curriculum resources to develop knowledge, skills and understanding more consistently across subject areas than documents developed by various subject associations, indicating that consensus forged by national curriculum agencies across disciplines was an important factor. Recommendation or implementation of particular strategies to facilitate diffusion and adoption of curriculum resources was rarely encountered suggesting that such strategies were associated with projects modelled on the curriculum reform movement. The collection of data about the provision and use of curriculum resources in schools was usually associated with the broader field of accountability, which focused the interpretation of such data on the issue of adequate provision rather than on the matter of teachers' dependence on materials.

Although these activities encompassed the three decision settings, they were largely concentrated in the homeostatic decision setting. The reliance on activities that make small, restorative changes indicates a lack of effective strategies available to the educational systems in each country to provide new solutions for implementing curriculum resources in educational settings.

It was found that documents outlining the National Curriculum for England and Wales and the Northern Ireland Curriculum provided a high degree of specification for using particular materials, whilst the National Guidelines for Scotland offered less specification. The high degree of specification contained in these documents for using materials is supported by an extensive accountability system for collecting data on a wide range of educational issues affecting school systems, including the provision of curriculum resources. The only comprehensive data on the provision and quality of curriculum resources in schools in any of the three countries are collected by OFSTED in England, Her Majesty's Inspectorate for Education and Training in Wales, HM Inspectorate of Education in Scotland, and the Northern Ireland Education and Training Inspectorate. This work was supplemented by extensive surveys commissioned by the Publishers Association's Educational Publishers Council focusing on the collection of data about the use of materials in particular subject areas. However, data collected from case study research into the use of particular materials in individual classrooms would have provided more useful information upon which to make conclusive judgments about the impact of curriculum reforms on the role of materials in terms of their content, understandability, usability and likeability. The impact of curriculum reforms in the United Kingdom on the role of materials was probably influential for these criteria in terms of

specifications contained curriculum documents. These specifications focused on identifying materials that present particular content, which meet students' needs for understandability and likeability, or designating particular media that maximise usability.

It was found that the national standards documents from the United States varied considerably in the extent to which they provided specifications for using particular materials. Such specifications were only provided in the national standards documents for Science, History, Geography, English Language Arts, Foreign Languages, and Social Studies. This finding supports a conclusion that documents developed by various subject associations lack consistency across many aspects, including specifications about how curriculum resources should be used in subject areas. Unlike the United Kingdom, systematic collection of data about the provision and use of curriculum resources is not undertaken in American schools. In recent times, the Association of American Publishers' School Division has been the only organisation to collect such data. In spite of the paucity of measures for monitoring the use of curriculum resources in schools, the establishment of dissemination centres by the National Science Foundation to implement curriculum materials represents the only case of its type in the three countries. However, it is apparent that these limitations makes it difficult to form a conclusive judgment about the impact of standards-based reform on the role of curriculum materials in terms of their content, understandability, usability and likeability.

It was found that the national statements from Australia provided a consistently moderate degree of specification for using particular materials in Australian schools. Systematic collection of data about the provision and use of curriculum resources is not undertaken in Australian schools. However, data on the use of curriculum resources has been collected on an unsystematic basis by the Australian Publishers Association and by the Commonwealth Department of Education, Science and Training for specific national projects, such as the Discovering Democracy School Materials Project. However, it is apparent that the failure to collect comprehensive data on the use of curriculum resources in classrooms makes it difficult to form a conclusive judgment about the impact of curriculum reform on the role of curriculum materials in terms of their content, understandability, usability and likeability.

Conclusion

The findings of the study showed that the efforts made by policy-makers to align altered educational needs arising from standards-based and curriculum reforms to the materials' marketplace varied markedly between the three countries. Within the United Kingdom, an alliance between educators and publishers in England initiated the first steps in transforming the materials' marketplace. Although an effort was made to reform the materials' marketplace

in the United States in the 1980s, this endeavour was not continued into the 1990s. However, publishing companies, professional associations, and federal and state education agencies undertook a multitude of standards-based initiatives to improve the development, selection and use of curriculum materials. Although national education agencies in Australia initiated several projects to develop materials to meet curriculum reforms, signs had not emerged from educators and publishers that they recognised the need to reform the materials' marketplace.

The findings of the study showed that national curriculum reforms had a considerable impact on the materials' marketplace in the United Kingdom, although this effect was not uniform over the constituent countries. Implementation of the National Curriculum in England stimulated a consortium of educators and publishers to undertake a series of activities, which set the stage for improving ways the materials' marketplace operates by gaining a deeper understanding of the complex problems associated with the development, selection and use of curriculum materials. Extensive surveys identified severe shortages of curriculum resources in schools. The Educational Resources Project undertaken by the Qualifications and Curriculum Authority identified the extent to which the content of most-used materials matched the National Curriculum. The International Review of Curriculum and Assessment Frameworks undertaken by the National Foundation for Educational Research identified features of procedures used to select materials in other countries. Seminars convened by the consortium of educators and publishers considered alternative procedures for selecting materials, but failed to adopt an alternative to the prevailing decentralised pattern. Although a considerable degree of guidance was provided in the National Curriculum for using particular materials, this guidance lacked specific strategies to support teachers in implementing materials in classrooms. The collection of comprehensive data on the use of materials across subject areas provided useful information to support changes to improve the system for developing, selecting and using curriculum resources. The challenge facing educators and publishers will be to transcend the success of these preliminary activities by applying the planned change model to reform the materials' marketplace. A capability to extend such a change to other countries in the United Kingdom constitutes an important corollary to this challenge.

Standards-based reform had a considerable impact on the materials' marketplace in the United States, although the complexity of elements within the system meant that this impact was uneven across the country. The deeper understanding of policy-makers about the workings of the materials' marketplace than their counterparts in the United Kingdom and Australia had been brought about by the popularising of a body of research literature on this topic. An understanding of the effects of mergers on the nature of the publishing industry, and of publishers coordinating the development of materials to the adoption cycles of large state-level

adoption states on the content of materials was widely held in publishing and educational circles. The findings of the study showed that some groups responsible for developing national content standards had contributed to this knowledge base by developing materials to support standards-based reform, but more importantly had convened conferences to improve the quality of materials. Studies over seven decades confirmed that differences between selection procedures of state-level and local-level adoption states were related to the greater degree of control of centralised decision-making over the selection process. This difference was confirmed by the findings of the study showing that state-level adoption states undertook a significantly greater number of activities in selecting materials associated with standards-based reform. Studies on the role and use of materials in American schools have concentrated on interpreting contradictory evidence showing that teachers depend on materials with an unquestioning acceptance or use them independently through personal choices. On the other hand, the failure to collect comprehensive data on materials used in schools represents the most obvious shortcoming in providing reliable information to justify changing the materials' marketplace to support standards-based reforms. Policy-makers made a determined effort to reform the materials' marketplace during the excellence debate of the 1980s. However, this effort faltered due to the intransigence of the publishing industry, the failure of the states to form a coalition to determine solutions, and the shift at the federal level away from this issue as a priority. As the advent of standards-based reform has not reinstated this issue as a central initiative of educational policy, the imperative for systemic reform of the materials' marketplace seems to have been lost.

The findings of the study showed that curriculum reforms had a limited impact on the materials' marketplace in Australia. The evidence suggests that publishing companies responded positively by aligning new materials to state and territory curricula. However, publishers and educators failed to form a compact to improve the quality of curriculum materials by gaining a better understanding of the materials' marketplace as a first step to forming a consensus about reforming the existing system. The dual system, whereby materials are selected by different procedures at the compulsory and the post-compulsory levels, has reinforced the deficiency of the decentralised pattern of selecting materials in failing to provide sufficient expertise among educators to develop organised, defensible procedures to improve decision-making in the selection process. Although an acceptable degree of guidance was provided in the national statements for using materials, this guidance lacked specific strategies to support teachers in implementing materials in classrooms. Furthermore, the failure to collect comprehensive data on materials used in schools represents a shortcoming in providing useful information for policy-makers to determine the extent to which the materials' marketplace should be changed to support curriculum reform. Reform of the materials' marketplace in

Australia is unlikely to occur until policy-makers, educators and publishers establish a forum to discuss the issues of cooperating to develop materials of high quality, involving all stakeholders in the decision-making process for selecting materials, and providing effective strategies to implement materials in classrooms.

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